

Serial No. 10/525,026
Atty. Doc. No. 2002P12057WOUS

Amendments To The Claims:

Please amend the claims as shown.

1 – 15 (canceled)

16. (currently amended) A method for the nondestructive testing of a gas turbine component to determine a degraded region of the component, comprising:
subjecting the component to a first eddy-current producing signal;
determining a first measurement variable of the component responsive to the first signal;
subjecting the component to a second eddy-current producing signal having a different frequency than the first signal;
determining a second measurement variable of the component responsive to the second signal, wherein the first and the second measurement variables each comprise conductivity or permeability of the component;
determining a depth of the degraded region of the component according to a difference between the first and the second measurement variables, by an eddy current measurement,
wherein at least two different measurement frequencies are used for the eddy current measurement and the regions of the component do not contain any ferromagnetic materials.

17. (currently amended) The method as claimed in claim 16, wherein the first signal comprises a low frequency signal is used initially and the second signal followed by comprises a high frequency.

18. (currently amended) The method as claimed in claim 16, further comprising
subjecting the component to additional frequency signals wherein the frequency is changed
continuously from the first low frequency to the second high frequency in a frequency scan.

19. (previously presented) The method as claimed in claim 16, wherein oxide regions composed of oxidized carbides that are near a surface of the component represent the degraded regions.

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20. (previously presented) The method as claimed in claim 16, wherein the component is made from a carbide-containing alloy.
21. (previously presented) The method as claimed in claim 16, wherein sulfided regions of the component located close to the surface represent the degraded regions.
22. (previously presented) The method as claimed in claim 16, wherein a measurement probe with coils in meandering form is used.
23. (previously presented) The method as claimed in claim 16, wherein a relative magnetic permeability of the component is less than or equal to 1.2.
24. (currently amended) The method as claimed in claim 16, characterized in that the frequency of each of the first and the second signals for the eddy current measurement is in the range from 500 kHz to 35 MHz.
25. (previously presented) The method as claimed in claim 16, wherein the measurement probe for the eddy current measurement is located on a surface of the component.
26. (currently amended) The method as claimed in claim 16, wherein a base body of the component is made from a nickel- or cobalt-base superalloy.
27. (previously presented) The method as claimed in claim 16, wherein the degraded regions have a low electrical conductivity.
28. (previously presented) The method as claimed in claim 16, wherein a measurement variable of a base material is measured and a measurement variable of the degraded region is measured.

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29. (previously presented) The method as claimed in claim 28, wherein the measurement variable changes during the eddy current measurement as a function of the frequency.

30. (cancelled)

31. (previously presented) The method as claimed in claim 16, wherein the component is a blade or vane.